

ABSTRACT

A sperm-binding ligand sequence with the amino acid sequence HIPRTY is claimed. Using proprietary bio-informatic analysis, this sperm-binding ligand sequence was shown to also precisely correspond with a previously characterized highly conserved protein-protein interaction site in the Axin protein at position 370 to 375. The Axin protein sequence HIPRTY is found within the binding site of Axin to a known sperm surface protein, Glycogen Synthase Kinase -3. This result not only provides proof of the utility of this technique to identify cell surface ligands in mammalian gametes, but it also provides the first molecular data supporting a potential role for spermatozoa in facilitating developmental axis formation in mammalian embryos. The HIPRTY peptide can be useful in fertility therapy and diagnosis.